PENGARUH FISIK ABU TERBANG *(FLY ASH)* LIMBAH BATU BARA TERHADAP DIVERSITAS DAN DENSITAS ARTROPODA KARNIVOR PADA TANAMAN PADI GOGO (*Oryza sativa* L.)

THE PHYSICAL INFLUENCE OF COAL WASTE FLY ASH ON CARNIVOROUS ARTHROPOD DIVERSITY AND DENSITY IN GOGO RICE PLANT (Oryza sativa L.)

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Abstrak

Penelitian ini bertujuan untuk mengetahui pengaruh *fly ash* limbah batu bara PLTU Tanjung Jati B Jepara terhadap diversitas dan densitas artropoda karnivor pada tanaman padi gogo (*Oryza sativa* L.) Penelitian ini merupakan penelitian eksperimental dengan menggunakan desain penelitian rancangan acak lengkap (RAL). Penelitian dilaksanakan sejak bulan September hingga bulan Desember 2014, bertempat di kebun percobaan Fakultas Pertanian UGM, Banguntapan, Sleman, Yogyakarta. Dosis *fly ash* yang digunakan adalah 20 ton/ha, 40 ton/ha, 60 ton/ha, dan 80 ton/ha dengan jumlah 3 ulangan pada setiap dosis perlakuan . Pengamatan dilakukan 2 minggu sekali dengan cara pengamatan langsung (insitu) tanpa mengambil sampel artropoda karnivor. Hasil uji ANOVA menunjukkan bahwa pengaplikasian *fly ash* pada media padi gogo tidak memiliki pengaruh yang nyata terhadap diversitas dan densitas artropoda karnivor, dimungkinkan karena mekanisme *bottom up* tanaman-artropoda tidak mencapai level trofik artropoda karnivor.Kesimpulan dari penelitian ini adalah pengaplikasian *fly ash* limbah PLTU Tanjung Jati B Jepara,pada media padi gogo tidak memiliki pengaruh yang nyata terhadap diversitas dan densitas artropoda karnivor. Penelitian lanjutan dibutuhkan untuk mengetahui mekanisme dampak *fly ash* terhadap artropoda.
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Kata kunci: *fly ash, artropoda, karnivor, diversitas, densitas*

Abstract

This study aimed to determine the effect of coal waste fly ash on Tanjung Jati B Jepara Steam Power Plant on carnivorous arthropod diversity and density in gogo rice plant (Oryza sativa L.)This study was an experimental study using completely randomized design (CRD) research design. The experiment was conducted from September to December 2014, held at the Faculty of Agriculture experimental garden, Banguntapan, Sleman, Yogyakarta. The fly ash dose used were 20 tons / hectare, 40 tons / hectare, 60 tons / hectare, and 80 tons / hectare with 3 repetition at each dose treatment. Observations performed 2 weeks by direct observation (in situ) without taking samples of carnivorous arthropods. The results ANOVA test showed that application of fly ash as an additional element in the gogo rice media had no significant effect on the diversity and density of carnivorous arthropods, it is possible for a bottom-up mechanisms of plant-arthropod did not reach the carnivorous arthropods trophic level.The conclusion of this study was the application of coal waste fly ash Tanjung Jati B Jepara Steam Power Plant in the gogo rice media had no significant effect on the diversity and density of carnivorous arthropods. However, further research was needed to determine the mechanism of the impact of fly ash to the arthropods.
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Keywords: fly ash, arthropods, carnivorous, diversity, density

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